

EMBEDDING DELETION AND GAPPING IN MAORI NARRATIVE TEXTS

PATRICK W. HOHEPA

This paper explores the operations involved in deletion in Maori.¹ Deletion is taken to mean that phrases in deep structure do not appear (or are inferred, or 'understood', as being present) in surface structure. One could, alternatively, use a Bloomfieldian formulation and take deletion to mean that certain overt phrases have zero alloforms in certain storable environments. Gapping expands the notion of deletion to include deletion of parts of a phrase, or sequences larger than a phrase.² Embedding, the inclusion of a surface phrase within another surface phrase, is used to justify certain inferences relevant to deletion. Narration, both textual and oral, is used as a parameter since postulated deleted sequences are usually given overt or surface form in preceding segments of the discourse. Further reasons for the restriction to Maori narratives are given below.

Like many Polynesian languages already analysed, Maori has an overt, easily isolable surface phrase structure.³ In terms of both Bloomfieldian and generative constructs, these overt phrases serve as primes for syntactic analysis since each sentence is comprised of one or more phrases. Phrase concatenations occur phonologically and morphologically; junctures, identified by pauses and intonation contours, are clear indications of phrase boundaries when speakers are narrating slowly or deliberately; initiating particles, with the triple role of introducing a phrase, classifying phrase type, and classifying phrase nucleus, provide morphological phrase boundaries.⁴ Each phrase would have similar components. A structure consisting of initiating particles, a following phrase nucleus with optional

peripheral minor morphemes, and one or more postposed modifying major or minor morphemes would generally encompass all phrase variants.⁵ A detailed analysis of phrase interior, of minor and major lexicon classes, of co-occurrences, of phrase types, and of grammatical concatenations of phrases, would satisfy the requirements of observational adequacy since such an analysis would give an account of the surface data.⁶

This analysis, however, lies within the generative analysis framework initiated by Noam Chomsky over a decade ago. While there have been refinements and divergences in the years that followed several crucial constructs are salient to this paper. Thus, the dichotomy of surface versus deep structure is maintained and with it the inference that the deep structure may have elements or whole sequences not in the surface structure. It is furthermore recognized that the order of elements in the deep structure would differ from that of the surface and that the transformational mapping between deep and surface structures is often highly complex. Thus, to substantiate certain structural claims and specific deep structure phrase markers, long chains of inferences are often needed. One need not accept *in toto* the position recently taken by Postal, that there are, as yet, neither firm foundations nor doctrines which will serve as a base line in analysing a specific language in terms of transformational analysis.⁷ Some features of language are not language-specific, there are general principles which may serve as a universal baseline. For example, all languages will have noun phrases and verb phrases.⁸ It is fairly certain that all languages will have time markers which show few constraints in permutation or scrambling.

Research into syntactic structures of Polynesian languages using such a framework described above is in its infancy in Polynesian languages. The bulk of linguistic analysis has been focussed rather on synchronic analyses of phonology and morphology, and diachronic and comparative analyses using these and lexical resources. The lack of research is not the reason for restricting this investigation to structures in narrative texts.

Two separate styles of Maori are extant, if the various known but not analysed versions of Maori-English pidgin are excluded. The first style (or code, or register) is the informal one resulting from the dyadic interplay of peers, spouses, siblings, kin, and close friends, etc., with resultant idiosyncratically shared patterns of deletions from the shared larger unified Maori structure. Analysis

of such shared patterns would be difficult and would necessitate a knowledge of the larger unified Maori structure. The second style is the formal one. It is used in careful verbal interchange, in spoken or written narrative, i.e. in all situations where some formality requires overt use of the formal style. Such a style would exemplify the fuller Maori structure; it would contain patterned features such as ordered morphemes, cyclic rules for pronominalization and pronoun or subject deletion. Others may posit as aberrant the oratorical style used in formal speeches by referring to such exotic features as copious repetitions of certain key phrases as in

- (1) haere mai e ngaa hapuu, haere mai e ngaa iwi,
 haere
 *(come imperative the subtribes, come imperative
 the tribes)*
- mai e ngaa rangatira maha
 (come imperative the chiefs many)
- 'Welcome subtribes, tribes, and the many chiefs'*

or copious passive-imperative constructs as in

- (2) mauria mai ngaa mate kia tangihia, kia mihia e
 taatou
 *(Bring-passive the dead subjunctive weep passive
 subjunctive greet/farewell passive agentive
 we-inclusive)*
- 'Bring the dead so we may weep and farewell them'*

or copious deletions as in

- (3) kua hinga, kua mate, kua riro, kua haere koe ki
 *(perfective fall, perfective die-passive,
 perfective take)*
- oo tuupuna
 *(passive perfective move you-singular to your
 ancestors)*
- 'You have fallen, died, taken away, gone to
 your ancestors'*

as being distinctive features. Such can be handled in a general discussion of deletions since the differences between the uses portrayed above, and the uses elsewhere are only in terms of frequency.

In Hohepa 1967,⁹ complex sentence formation was analysed as having three variants; subject deletion in imperative constructs, subordinate clause embedding in kernel sentence, and kernel sentence conjunctions. The emphasis in 1967 was to deliberately restrict the analysis to grammatical concatenations of up to seven non-identical phrase types, or to two noun phrases followed by a third non-identical phrase type. These surface phrase orders and their permutations were observable and testable and by using such primes one could explain general processes operating in sentence coalescence and subject deletion. Such an exposition, however, gave a simplistic version based solely on a typology of observable phenomenon of what is a highly complicated series of inferences involved in sentence transformations. Many relevant issues were not discussed. Thus, the question of ordering of transformations was not raised; pronominalization was not regarded as an issue; complex sentence analysis as a justification for deep active-passive relations were not considered relevant issues. These issues were raised and discussed by Hale.¹⁰ The relevance of deletion will be discussed here with examples drawn from narratives published in a collection of stories written by various Maori authors between the 1860's and the 1960's.¹¹ Punctuation and orthography given in the text have not been altered, while examples drawn from other sources have been regularized to fit into the orthography used in the text. While most linguists are concerned primarily with relatively simple sentences and their analyses rarely go beyond complex sentence boundaries, the key example chosen here for analysis, while comprised of two surface sentences, is formidably complex. There are copious phrase deletions, pronominalization, gapping and embedding, and such processes are found in narrative sequences in many languages of the world.

The sequence to be analysed is drawn from the first narrative in the text.

- (4) i teenei waa ka paa te aawangawanga ki tana
 taane kei
 (past *this time* inceptive *touch the fear to her*
husband)
- riro tana tamaiti i te iwi o te moana. Kaatahi
 ka
 (lest *be take-passive his child by the people*
of the sea. Then)

haere ki te tohunga ki te ui tikanga e mau ai
tana

(inceptive go to the expert to the ask method)

tamaiti raaua ko te whaea.¹²

(future hold resultative his child and the
mother)

'At this time her husband became afraid lest his
child be taken by the people of the sea and then
(he) went to the expert to seek some way to hold
his child and the mother'.

A combination of phonological junctures, word classes, and phrase
initiators would isolate overt phrase boundaries (marked as // non-
final, # final), and phrase types (given in capitals under Maori string:
TP time phrase, VP verb phrase, NP noun phrase, AP agentive phrase,
PP possessive phrase, conj conjunctive) and the typical sequence given
in (4) would be structured as follows:¹³

(4)(ii)	i	teenei waa	//	ka paa	//	te aawangawanga	//
		TP		VP		NP	
	ki	tana taane	//	kei riro	//	tana	
		NP		VP			
	tamaiti	//	i	te iwi	//	o te moana	#
	NP			AP		PP	
	kaatahi	//	ka haere	//	ki te ui tikanga	//	
	conj			VP		NP	
	e mau ai	//	tana tamaiti	//	raaua ko	//	
	VP			NP		conj	
	te whaea	#					
	NP						

Such a description would be superficial in the sense that it does not
explain the relational functions of each NP, so that one may act as
subject. Also, it seems fairly obvious that surface subject is absent
in the second sentence of (4). There is no explanation, furthermore,
for why /i teenei waa/ should be treated as a time phrase while /i te iwi/
is treated as an agentive phrase, whereas their initiators are
superficially similar. While subject omission can be explained in an
ad hoc manner by suggesting that, in the light of other languages, the

given sentences form one complex sentence with subject being 'understood' rather in the manner that subject is 'understood' after the conjunctive /and/ in the English sentence

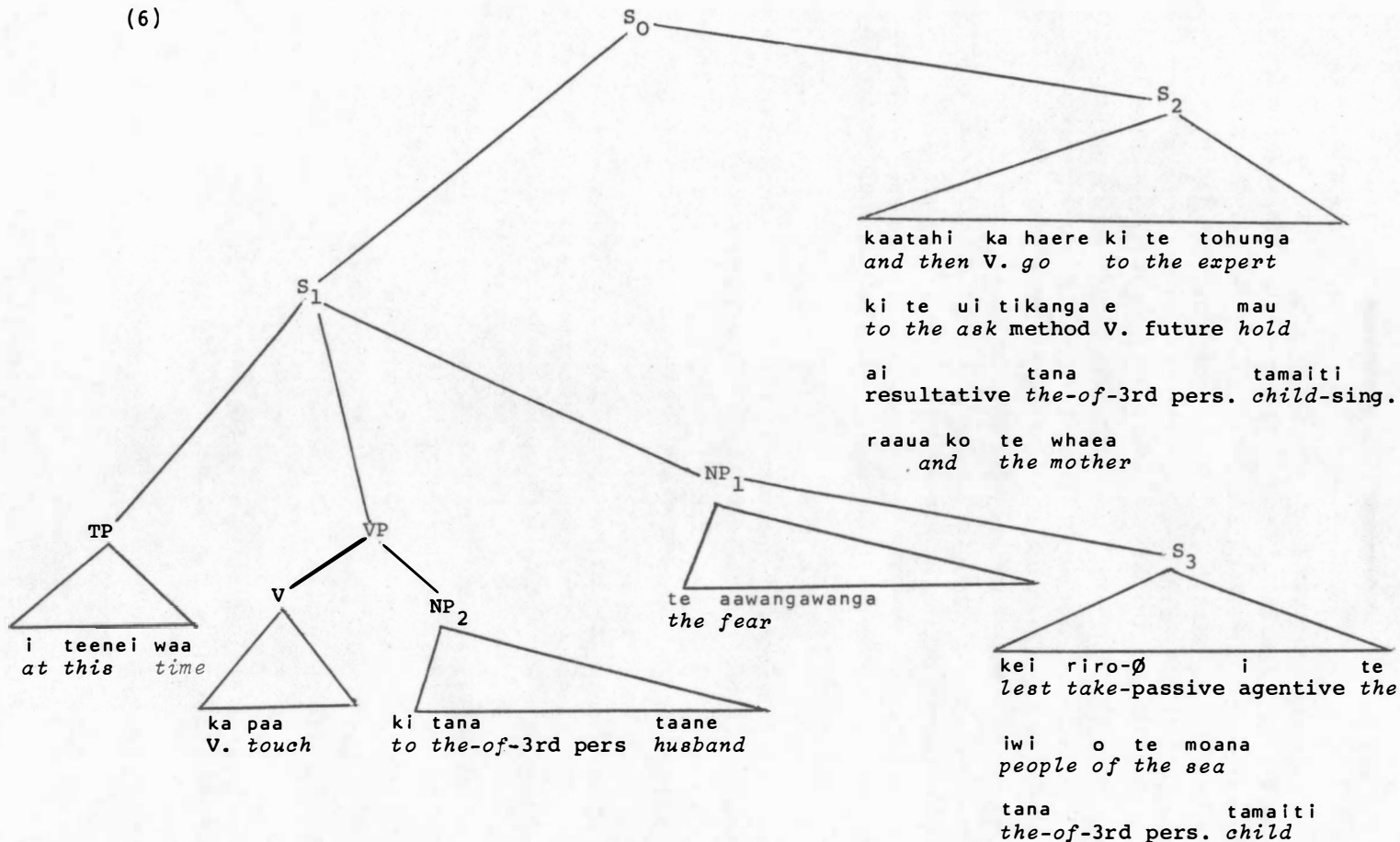
- (5) Her husband became distressed and went to the doctor.

(for Maori such an argument is structurally sound and verifiable), there can be no similar *ad hoc* answers however for the other problems raised above. To provide a superficial answer to explain each is to begin an analysis marked by constant contradictions. Deep explanations which are feasible depend on a series of assumptions, detailed examples and arguments, and a commitment to the task of unravelling the structure underlying the surface manifestations. To begin, it is first assumed that the structure of the sentence is not that given in terms of linear phrase concatenations, but is roughly that represented by configuration (6).

Configuration (6) suggests that the complex sentence dominated by the node S_0 consists of two conjoined sentences, S_1 and S_2 with TP, V, NP_2 , NP_1 as its dominating nodes, and one subordinate (or embedded) sentence, S_3 . The sentence S_1 has as subject phrase that noun phrase immediately dominated by S (i.e. NP_1). Leaving aside for the moment the implications of the notion 'subject' is both intuitive and structural. Structurally, NP_1 can take part in scrambling so that it can freely occur in all phrase positions while cognitive synonymity and grammaticality is maintained, and the only surface change is the obligatory addition of /ko/ in sentence-initial position. This is exemplified in (7) where NP_1 is represented by the lexical items /te aawangawanga/. Its scrambling is shown while the other phrase components have been kept in a fixed relative order:

- (7) (i) i teenei waa ka paa te aawangawanga ki tana taane (as in (4))
- (ii) i teenei waa ka paa ki tana taane te aawangawanga (chosen as base for (6))
- (iii) i teenei waa ko te aawangawanga ka paa ki tana taane (the addition of /ko/ is obligatory when NP precedes V)
- (iv) ko te aawangawanga i teenei waa ka paa ki tana taane (in this example NP_1 acts as sentence 'focus')

(6)



- (8) (ii) i teenei waa ka paa ki te taane aa
of
ia te aawangawanga
3rd pers.

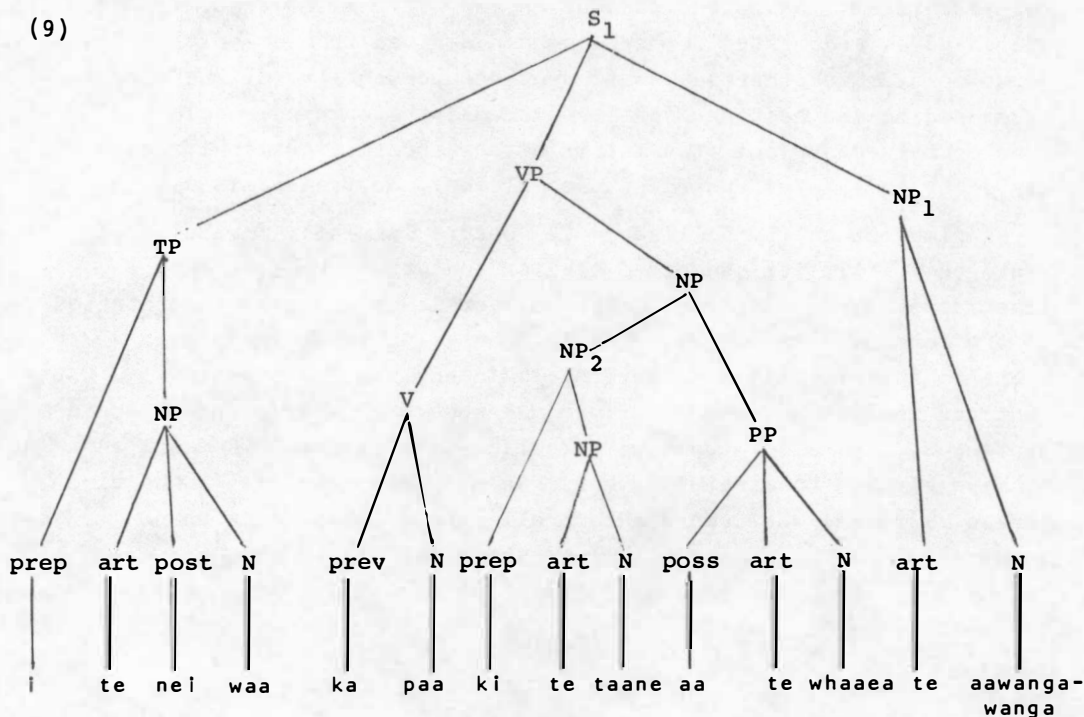
This presentence shows the pronominalization of the nucleus of the possessive phrase and the possessive phrase is then nested in the object phrase in (8) (iii) following. (8) (iii) is also a presentence.

- (8) (iii) i teenei waa ka paa ki te aa ia taane te
aawangawanga

Obligatory replacement of all free forms of the embedded phrase by bound form equivalents (so that /te aa ia/ is rewritten as /taana/) is followed by the replacement of the category of possession /aa/ by the neutralized short form /a/, so that the differences of categories of possession is no longer valid. The final result, also seen as S_2 of (6) is

- (8) (iii) i teenei waa ka paa ki tana taane te
aawangawanga.

The derivations are therefore dependent on (8)(i) the source deep structure sentence which has its configuration given in (9), following:



The inferred sequential operations deriving (8)(ii) and (8)(iii) from (8)(i) may well be questioned as lacking firm support. The fact that the following examples are cognitively similar and show regular paradigmatic relationships provides support:

- (10) (i) te paapaa oo Hoone ==> too Hoone paapaa
 '*John's father*'
- (ii) te kurii aa Tau ==> taa Tau kurii
 '*Tau's dog*'
- (iii) ngaa whenua oo te iwi ==> oo ngaa iwi
 whenua
 '*The people's lands*'
- (iv) ngaa kau aa maatou ==> aa maatou kau
 '*Our cows*'
- (v) te waka oo raatou ==> too raatou waka
 '*Their canoe*'.

Pronouns marking singular forms for first second and third person cannot occur in free possessive phrases. It is claimed here that the above provide sufficient justification for postulating free forms in the deep structure, which then become embedded surface forms. The suggestion made here is that free possessive forms become nested and not vice-versa. Such is dependent on the wider claim that, for Maori, all embedded and nested forms have been derived from underlying free forms. To argue otherwise is to deny the possibility of the operations of embedding and nesting. At its extreme, the argument would then develop marked subject of a matrix either from a pronominalization which may occur in a later subordinate complement, or from null.

A time phrase (symbolized by TP) occurs initially in the matrix sentence S_1 . It was suggested earlier that time phrases show the least constraints in scrambling. In Maori this has been demonstrated in the form of sentence profiles in Hohepa 1967. While Chomsky seems to suggest that Time Adverbials in English are possibly sentence modifiers¹⁵ and their use may span both matrix and embedded sentences,¹⁶ parallel constructs (called Time Phrases) in Maori seem to have certain constraints. While in all sentences in (7) the time phrase /i teenei waa/ can occur in all phrase positions with no semantic perturbations and with grammaticality maintained, the same is not true when time phrase is scrambled in (8)(i). The phonological string

- (11) (i) *ka paa ki te taane i teenel waa aa te
whaea te aawangawanga

is ungrammatical, while

- (11) (ii) ka paa ki te taane a te whaea i teenei
waa te aawanganga

is grammatical and is cognitively synonymous with sentence (9). While this indicates that the claim of free permutation is too strong, the non-grammatical nature of the phonological string with the nodes NP+TP+PP (for possessive phrase), and the grammatical nature of the string NP₁+TP+NP₂ (where PP is embedded in NP₂) does suggest the conclusion in (12).

- (12) Transform rules which embed possession phrases into the dominating noun phrase must precede rules which scramble time phrase.

The second restriction directly refers to the parameters of TP scrambling. In (4)(ii) surface phrase and conjunctive concatenations were given for the complex sentence being analysed. Once the possessive phrase has been nested (as shown above and as inferred to have already happened in (4)(ii) the time phrase (TP) can occur in all phrase positions in the matrix sentence which is represented by (7)(i). However, while TP can occur after phonological strings already specified as VP, NP₁, NP₂ in the matrix sentence, the occurrence of TP after the second VP and other successive phrases of (4)(ii) result in either cognitive synonymy being destroyed, or in ungrammatical sequences. A general conclusion now including conclusion (12) is advanced:

- (13) While time phrase permutes freely within the sentence which dominates it, rules for scrambling time phrase must follow rules for embedding a possessive phrase in noun phrase.

Turning now to a discussion of the two embedded sentences represented by S₂ and S₃ in configuration (6), this configuration infers that NP₁ of the matrix is the deep subject of S₃, and S₂ is dominated by S₁ (i.e. S₂ is conjoined with S₁).

The structure of S₂ will be analysed first. It is suggested that /te taane/ *the husband* is deep subject of S₂. This deep subject is the object of the matrix sentence, and as is the case in many other languages, one can assume that pronominalization has taken place and that the phrase with the pronominalized form as its nucleus has been deleted.¹⁷ The superficial structure of S₃ this time with subject

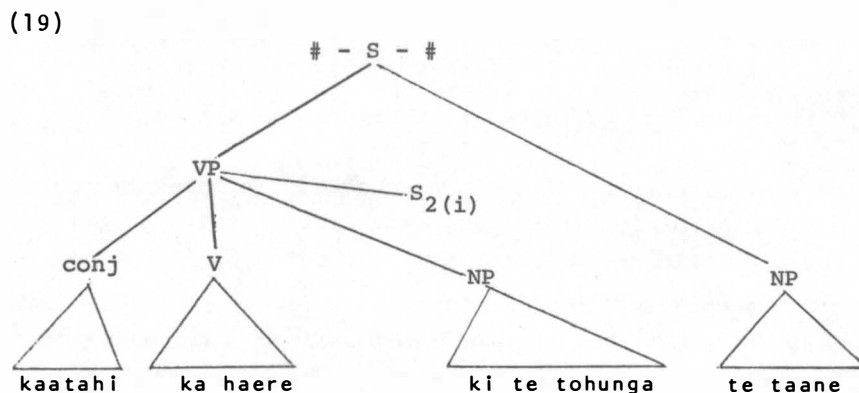
included, is assumed to consist of a right-branching construction represented in (14) by unlabelled brackets:

- (14) [kaatahi ka haere te taane ki te tohunga [ki te ui tikanga [e mau ai tana tamaiti raaua ko te whaea]]]¹⁸

With a postulate that the structure consists of right-branching constructs comes this inference that the superficial structure has resulted from complex embeddings of certain sentences and presentences with each being dependent on a surface phrase in the preceding sentence or presentence. Those structures which embed to form sentence (14) underly sentence (15) and presentences (16), (17) and (18), following:

- (15) kaatahi ka haere ki te tohunga te taane
'Then the husband went to the expert'.
- (16) ki te ui i he tikanga te taane
'to ask a/some method the husband'
- (17) e mau ai te tamaiti aa te taane
'so that the child of the husband can be held'
- (18) e mau ai te whaea
'so that the mother can be held'

Sentence (15) of the complex embeddings extricated above has the underlying configuration:



Here, NP immediately dominated by S is again the subject. This NP (/te taane/) is deleted in the deep structure. VP dominates the

conjunction /kaatahi/ and then, the verb and its marker dominated by V, (ka haere/ inceptive go), and NP dominating /ki te tohunga/ to the expert, which, for reasons outlined earlier, functions as sentence object of this structure. The position of the conjunctive was briefly touched on in the discussion following(4)(ii), but the reasons for supporting a hypothesis that this conjunctive is dominated directly by VP has been left until other relevant structures have been clarified. While it is true that there are conjunctives in Maori which link together adjacent sentences (and /kaatahi/ is one of a list),¹⁹ there are special reasons for linking /kaatahi/ with VP rather than having this conjunctive dominated directly by the node S. One reason is the absence of V will preclude the use of /kaatahi/ as a conjunctive; another surface reason is, if V is present the initiator must be /ka/ otherwise /kaatahi/ cannot be used as a sentence conjunctive. These, however, are dependent occurrence reasons. The most convincing evidence for substantiating the especially close link between /kaatahi/ and /ka/-initiated V, is provided by scrambling or permutations. The sentences (20)(i-iii) show such permutations. They are grammatical and are cognitively synonymous with sentence (15), while (20)(iv-vi) are ungrammatical:

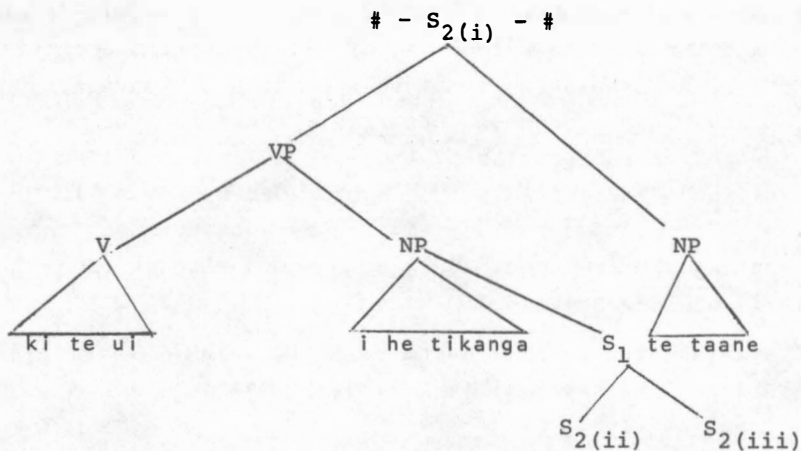
- (20) (i) kaatahi te taane ka haere ki te tohunga
 (ii) kaatahi ka haere ki te tohunga te taane
 (as in (14))
 (iii) ko te taane kaatahi ka haere ki te
 tohunga
 (iv) *ka haere kaatahi te taane ki te tohunga
 (v) *ko te taane ka haere kaatahi ki te
 tohunga
 (vi) *ka haere ki te tohunga kaatahi te taane

The reason given earlier for substantiating the claim that VP dominates both V and that NP identified later as object of the sentence, was that object cannot precede V. In sentences (20)(i-iii) a mirror-image situation is shown where the conjunctive cannot follow V, otherwise (as shown by the strings (20)(iv-vi)) ungrammaticality results. If the argument justifying VP domination of NP acting as subject is correct, the parallel argument also holds. Furthermore, when /te taane/ immediately follows /kaatahi/ (as in (20)(i)) this surface noun phrase does not take the specifier /ko/. Compare this with the behavior of surface noun phrase after a time phrase (7)(iii)

where /ko/ is obligatory. This behavior infers that /kaatahi/ has a relational function to NP similar to that of VP. Inferring domination by V is therefore logical. VP also dominates both conj and V.

In configuration (19) also, V is shown to dominate not only the lexical items /ka haere/ but also $S_2(i)$, whose output is presentence (16). This presentence (16) has the configuration (21).

(21)



In (21) /ki te ui/ *to ask* is treated as V although its surface initiators are those usually associated with nouns. Hale argues convincingly that there are deep reasons for treating certain complex constructions initiated by /kia/ as subjunctive constructs and has isolated such verbs as /fakaaro/ *to decide*, /tono/ *to bid to*, and /koorero/ *to tell to* as part of a set of higher verbs which can take subjunctive complements.²⁰ For similar constructs with /ki te/, however, Hale regarded them as either NP (see his (28))²¹ in the main, and only in one instance (see his (43))²² as V. His treating /ki te/ in some instances as also being V initiators is supported by the postulate that Polynesian languages share a typological feature of multifunctional particles. While /ki te/ may initiate surface noun phrases, it is argued here that it may also function as subjunctive markers in other storable environments, and these latter environments

are in complementary distribution with those for /kia/. That this inferred subjunctive function of /ki te/ is a productive one can be seen in the following examples. Surface phonological phrases incorporating the higher verb and the subjunctive complement are underlined respectively in both the Maori sentence and the English gloss:

- (22) ka hoki anoo ngaa taangata nei ki te muru i
 ngaa hua
 (inceptive return again the men here subjunctive
 raid
 o te poroporo ²³
 acc the fruit of the breadfruit)
*These men returned again to raid the fruit of
 the breadfruit tree*

- (23) ka hiahia a Uenuku ki te koorero, kiihai i
manawanui ki
 (inceptive desire person Uenuku subjunctive
 speak, did not
 te huna i te pai o taua wahine ²⁴
 strive subjunctive hide the beauty of that
 beforementioned woman)
 ... 'Uenuku wanted to speak, (he) did not strive
 to hide the beauty of that woman...

- (24) kaatahi anoo ia ka moohio ki te atawhai i aana
 taonga²⁵
 then only he inceptive know subjunctive care
 for acc. his thing
 then indeed can he know to look after his things

There is further support for this hypothesis that /ki te/ acts as a subjunctive marker and that such subjunctive constructs differ from surface verb phrases initiated by /kia/. Consider the following sentences:

- (25) noo reira, e tika ana ngaa iwi o tawhiti
 (from there, imper- correct -fective the-pl
 people from afar
 kia paatai: "Ko wai teenei tangata ...?"²⁶
 subjunctive ask: Who is this man...?)
 Therefore it is right that distant people ask:
 Who is this man?

(26) ka tonu a Poomare i a Taotaoriri kia haere ki
Waiapu.²⁷

(inceptive *send person Pomare* objective *person*
Taotaoriri subjunctive *go to Waiapu*)
Pomare sent Taotaoriri to go to Waiapu

The deleted subject of the subjunctive complement of sentence (25) is identical to that of the subject of the matrix sentence, while the deleted subject of the subjunctive complement of (26) is identical to the object of the matrix; in both examples the appropriated noun phrase has been underlined in the Maori and English glosses. These observations for Maori were first noted by Hale.²⁸ Example (26) above and Hale's example (20)--'ka koorero huna a Kupe ki a Kura kia haere iia ki Motutapu'--where the pronominalization has not been deleted, show a striking feature: when an object is present both verbs are active. In sentence (25) above, and in Hale's sentence (22)--'ka fakaaro a Toto kia tonoa e ia he tohunga', there is no object, and one of the verbs is either a stative (as in (25) above), or is passively marked.²⁹ The rule which seems valid for the choice of /kia/ as a subjunctive marker seems to be: when the matrix has an object and both the matrix and subjunctive complement are active, or, when the matrix has no object and at least one of the matrix and subjunctive complement verbs is passive, /kia/ is the appropriate subjunctive complement. The other postulated subjunctive marker is in complementary distribution; when there is no object in the matrix, and both the matrix verb and the verb of the complement are active, /ki te/ is the appropriate subjunctive complement. The following sentence and its derivations support the stated conditions of complementarity:

(27) (i) ka tuuria te koorero kia tahuna a Miru³⁰
(inceptive *propose-passive the subject*
subjunctive burn-passive person Miru)

This sentence has no surface object and both verbs are marked passively, hence /kia/ is subjunctive marker.

(27) (ii) ka tuu te koorero kia tahuna a Miru
The matter raised was that Miru be burnt.

The only difference between (27)(i-ii) is that the latter has the matrix verb active. Since the complement verb is still passive, /kia/ is the appropriate subjunctive.

(27) (iii) ka tuu te koorero ki te tahu i a Miru

The matter raised was to burn Miru.

In this example, however, where there is no object and both the higher and the complement verb are active, /ki te/ replaces /kia/. The substitution of /kia/ for /ki te/ in the final example, and of /ki te/ for /kia/ in the former two examples, would result in ungrammaticality.

There is one further observation. While the subject of the subjunctive complement initiated by /kia/ may be optionally pronominalized and optionally deleted, the subjunctive complement initiated by /ki te/ is always obligatorily deleted. Hence, complementarity, pronominalization, deletion of subject, support the treatment of certain /ki te/ constructions as being subjunctive complement initiators. It is felt that /ki te ui/ in sentence (4) is a subjunctive complement and its configuration is that given in (21).

A further assumption is made in configuration (21); the surface string /ki te ui tikanga/ is interpreted as having been derived from the underlying deep structure string /ki te ui i he tikanga/. The string /ki te ui tikanga/ *to seek method/s* and the supporting examples

- | | | |
|----------|------------------------------------------------------------------------|----------------------|
| (28) (i) | ka rongo mamae ³¹
(inceptive <i>feel pain</i>) | <i>felt pain</i> |
| (ii) | ka whiwhi mīiti ³²
(inceptive <i>obtain meat</i>) | <i>obtained meat</i> |
| (iii) | hai hoo hoo taringa ³³
(purposive <i>buzz-buzz ear</i>) | <i>to buzz ear/s</i> |
| (iv) | i kai tangata ³⁴
(past <i>eat man</i>) | <i>ate person/s</i> |

are cogent reasons for inferring that the singular-plural distinction has been neutralized. In effect then, the inference is made that the structure of /ki te ui tikanga/ and the examples in (28) are derived by incorporation, specifically the deletion of particles, and not by phrase structure expansion of V by means of optional adverbially functioning adjuncts. That the strings under discussion cannot be followed by an object provide further support that the hypothesis on incorporation is structurally verifiable. Further verification is

found in the nature of phrase concatenations. When two NP strings both initiated by /i/ plus an article follow a transitive verb and another NP functioning as subject, the first string is the object of the sentence, the second is functioning as location. This is seen in (29) (i)

- (29) (i) ka kite/au/i teetahi mea pango/i te
 taha o te puke.³⁵
 (inceptive *see I object a thing black*
 locative *the side of the hill*)
I saw a black object by the hill.

When only one such NP string follows a transitive verb and NP functioning as subject, however, that string is always object. Compare, for example, the effect of removing the object phrase of sentence (29) (i):

- (29) (ii) ka kite / au / i te taha o te puke.
I saw the hillside.

Given the same verb and subject as in (29) (i), but this time with the object phrase of that sentence subjected to gapping transformation, a following /i/-plus-article initiated NP would still be a locative phrase:

- (29) (iii) ka kite mea pango/ au / i te taha o te puke.
 (inceptive *see thing black I locative the*
side of the hill)
I saw a black object by the hill.

This contrasts with the effect of replacing the nominal adjuncts with a verbal modifier; a following /i/-plus-article initiated NP would be an object marker

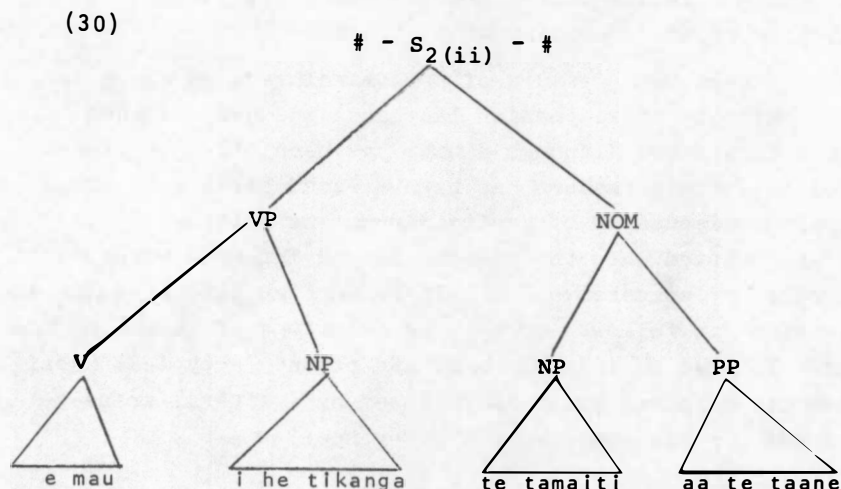
- (29) (iv) ka kite maarama haere / au / i te taha o te
 puke
 (inceptive *see clear gradual I object the*
side of the hill)
I gradually saw the hillside clearly.

Incorporation, in the sense used here, seems to be the most feasible analysis for strings like /ki te ui tikanga/, and examples in (28). A conclusion which may be valid for all Polynesian languages summarises those other features not specifically dealt with above follows:

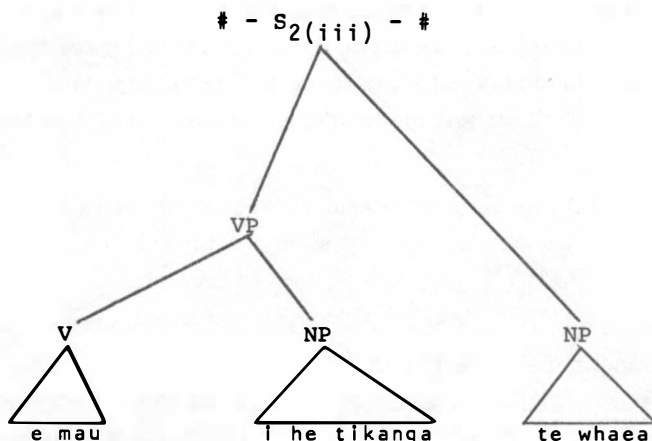
when a transitive verb is followed contiguously by a noun with the syntactic features [- personal, - location], the string is a derivation of incorporation. Incorporation rules must therefore follow N and V subclassification, but must precede passive transformation. To summarize:

/ki te ui tikanga/ in (14) has been derived from presentence (16), and this presentence has the configuration given in (21).

Attention turns now to the presentences (17) and (18). The structural differences between the two are minor; a possessive phrase is included in (17) and there is a non-identity of nuclei in their respective subject phrases. Both sentences are dominated by the object of a previous embedding (this is /i he tikanga/ in configuration (21)). The special relation which /i he tikanga/ has with the two embedded presentences (17-18) is provided by the particle /ai/ which I assume to refer to the stated NP string. In other words, /ai/ has an NP referent function rather like that of pronominalizations discussed earlier. The derived structure of the two embedded presentences (17) and (18) have, roughly, the following configurations, (30) and (31), respectively:



(31)



Arguments justifying the structures exemplified by the above configurations would parallel those for (9) and hence there is little need to repeat them here. It is sufficient to note that transformations will map one deep structure into the other so that only one constituent of each pair under identity remains in the surface structure, the proform /ai/ will replace /| he tikanga/, and the appropriate conjunctive /raaua ko/ will link the two non-identical noun phrases.

The analysis in depth of a complex Maori sentence therefore demonstrates that there are structural constraints operating in Maori which parallel those found in other languages. It demonstrates, furthermore, that there are sufficient indicators to justify the Chomsky postulate of an underlying deep structure.

There is, however, one feature of pronominalizations which is shared by the majority of Polynesian languages and has not been discussed in detail above although a hint has been given in remarks following (4)(ii). This feature has been alluded to in such broad terms as Elbert's discussion of Kapingamarangi narratives: "... pronouns... are omitted when the meaning can be inferred without them or expressed by possessives".³⁶ In Polynesian languages, in short, pronominalization is followed by copious deletions of pronominalized forms. To give an indication of its extent, a typical Maori sequence with its morpheme gloss is followed by a literal translation.³⁷ Sentences are numbered for reference:

- (32) (i) kaatahi ka riri a Wairangi ka patua e
ia a Parewhete.
*(then inceptive angry person Wairangi
inceptive hit-passive by him person
Parewhete)*
- (ii) I te poo ka oma a Parewhete; haria ana
e ia eeteahi kookoowai; ka haere tonu i
te huarahi o Tupeteka; ka tae ki teeteahi
maania, ka pania te kookoowai ki te
maanuka - kolia Maanuka-tuutahi.
*(locative the night inceptive run person
Parewhete; take-passive imperfective
by her some red-ochre; inceptive go
continue locative the path possessive
Tupeteka; inceptive reach locative a plain,
inceptive smear-passive the red-ochre
locative the maanuka-tree = that-is
Maanuka-tuutahi).*
- (iii) Haere tonu ka tae ki Aaniwaniwa ki te
awa o Waikato, ka puukaia iho teeteahi
o ngaa kaakahu, ka heria eeteahi.
*(Go continue inceptive arrive locative
Aaniwaniwa locative the river possessive
Waikato, inceptive heap-passive downwards, a
possessive the clothing, inceptive carry-
passive some.)*
- (iv) Ka whiti ki teeraa taha o Waikato, haere
tonu.
*(inceptive cross locative the-yonder side
possessive Waikato, go continue)*
- (v) Ka tuhi teeteahi kookoowai ki te pari ki
Pari-karangaranga, kei te takiwaa o
Tuuranga-moana.
*(inceptive mark one possessive red-ochre
locative the cliff locative Pari =
karangaranga, locative the region
possessive Tuuranga = moana)*

- (vi) Ka whiti i Waihou ka tae ki Te Aea.
(inceptive *cross* locative *Waihou*
inceptive *arrive* *Te Aea*)
- (vii) Ka moe i taana taane i a Tupeteka.
(inceptive *cohabit* objective *the-*
possessive-3rd pers. *male* objective
person *Tupeteka*)
- (viii) Ka kimi te iwi nei a Ngaati-Raukawa i
a Parewhete; naa ka haere eetehi i te
ara o Parewhete, ka haere noa atu eetehi.
(inceptive *seek* *the people* *here* *person*
Ngaati=Raukawa objective *person* *Parewhete*
then inceptive *go* *some* locative *the* *path*
possessive *Parewhete*, inceptive *go* *random*
away *some*.)
- (ix) Ka kitea te maanuka i pania ki te
kookowai -Te Maanuka-tuutahi.
(inceptive *find*-passive *the maanuka* *tree*
past smear-passive *instrumental* *the*
red-ochre = *the Maanuka=tuutahi*).
- (x) Haere tonu ka tae ki Aaniwaniwa ka
kitea ngaa kaakahu.
(*go* *continue* inceptive *reach* locative
Aaniwaniwa inceptive *find*-passive *the*
clothes)
- (xi) ka moohiotia kua riro ki Te Aea ki te
takiwaa o Te Aroha.
(inceptive *know*-passive *perfective* *take*
locative *Te Aea* locative *the* *region*
possessive *Te Aroha*)
- (xii) Ka hoki eeraa ki Rurunui, ka koorerotia
atu ki te iwi, ki a Wairangi hoki,
"Kua riro a Parewhete ki Te Aea, i
kitea e maatou ki te kookowai, ki ngaa
kaakahu."
(inceptive *return* *those* locative *Rurunui*,
inceptive *speak*-passive *away* locative *the*
people, locative *person* *Wairangi* *also*,

"perfective taken person Parewhete
locative Te Aea, past find-passive by
us instrumental the red-ochre instrumental
the clothes."

- (33) (i) Wairangi became angry and was beaten by
him Parewhete.
- (ii) At night, Parewhete fled; some red
ochre was taken by her; went directly
along Tupeteka's route; reached a plain,
the red ochre was smeared on the maanuka
tree, that is "The Solitary Maanuka".
- (iii) Continued, reached Aaniwaniwa, the Waikato
River, some of the clothes were heaped
up, some were taken.
- (iv) Crossed to the other side of the Waikato
River, continued on.
- (v) Drew red ochre on the cliff at Pari-
karangaranga in the region of Turanga-
moana.
- (vi) Crossed the Waihou River and reached
Te Aea.
- (vii) Cohabited with her man, Tupeteka.
- (viii) This tribe, Ngaati Raukawa, searched for
Parewhete; thus, some went along the
route of Parewhete, others went elsewhere.
- (ix) Was discovered the maanuka tree that had
been smeared with red ochre - "The
Solitary Maanuka".
- (x) Continued, arrived at Aaniwaniwa, the
clothes were found.
- (xi) Became known had gone to Te Aea, to the
district of Te Aroha.
- (xii) Those returned to Rurunui, was told to
the people, to Wairangi also, "Parewhete
is taken to Te Aea, was discovered by us
through the red ochre and the clothes".

Context would superficially indicate that sentences (32)(i-vii) refer to Parewhete, and sentences (32)(viii-xii) refer to a portion (translated 'some') of the Ngaati-Raukawa tribe. A closer examination of the Maori text would indicate, however, that the pattern of matrix sentence, pronominalization and deletion, is structured, but, unlike English, this structuring is not solely within complex sentence boundaries but within a larger unit. Such a unit can be called tentatively a discourse unit. One such discourse unit is sentence (32)(i), another is (32)(ii-vii), a third is (32)(viii-xii). This discourse unit is the Polynesian equivalent to a complex sentence in other languages. The first sentence contains the matrix sentence, and all other sentences following, whether embedded or free, are dominated by the matrix. Pronominalization rules for the dominated sentences would then parallel those for English; once pronominalization establishes the subject of one dependent sentence, all following pronominalizations are optionally deleted until a new matrix introduces a new cycle. That such a cycle is part of the deep structure of Maori can be demonstrated fairly positively with the aid of texts. Negative evidence is provided by spoken and written narratives of some bilingual and second language users of Maori; English is affecting the above pattern of pronominalization deletions to the extent that either ungrammaticality, or else criticism by fluent speakers, sometimes occurs.

N O T E S

1. Maori, a Polynesian language of the Eastern Polynesian subgroup spoken in New Zealand by some 60,000 to 100,000 people, is linguistically the most well-known of the Polynesian languages. This paper arose out of an attempt to critically check Kenneth Hale's review (in *Journal of the Polynesian Society* 77:83-99 (1968)) of my 1967 monograph (see footnote 3). As is usually the case, the urge to clarify, examine, and refine all too often lead to analyses far beyond that which gave initial impetus. If anything, this would be the legacy Arthur Capell would wish on his followers in the South Pacific. My checking of Kenneth Hale's review showed that his alternative analyses, conclusions and structural guesses were generally valid ones, demonstrating fairly clearly the utility of the notion of deep structure. It is to be hoped that this attempt at looking in depth into aspects of the syntactic structure of a Polynesian language would be a suitable festschrift contribution to Capell whose intensive and extensive knowledge of Pacific languages is renown, and whose work has done much to enhance linguistics in the South Seas.

In the preparation of this paper I am indebted to Kenneth Hale, Bruce Biggs, C.F. and F.M. Voegelin, and students of my Maori Syntax class, for stimulating discussion and helpful advice. The former pointed out several glaring inconsistencies in the prepublication version (in *Working Papers in Linguistics*, 2 March 1969, Department of Linguistics, University of Hawaii), and most of his suggestions were adopted in this version. Thanks are extended too to George Grace, Chairman of the Linguistics Department, University of Hawaii, for his helpful assistance, and for an invitation which resulted in my spending two semesters in his department. The Linguistics faculty and the Generative Grammar Discussion Group participants in the University of Hawaii also contributed to the excellent working environment. To

all I extend my thanks. The usual warning 'that they may not necessarily ascribe to what I have written does not infer that what was written was not stimulated by them' is deliberately given as a complex string which generative theorists like to unravel.

2. While this does not correlate exactly with his use of the term, nevertheless the significance of gapping was realized after reading the paper by John Robert Ross, *Gapping and the Order of Constituents*, ERIC/PEGS mimeo 8, 1967.
3. See, for example, Bruce Biggs, *The Structure of New Zealand Maori*, *Anthropological Linguistics* 3.3. (1961). Patrick W. Hohepa, *A Profile-Generative Grammar of Maori*, *International Journal of American Linguistics* 33.2, Memoir 20 (1967).
4. Hohepa 1967:15-37.
5. That these remarks are also valid for other Polynesian languages, see Pawley, elsewhere in this volume.
6. Noam Chomsky, *Aspects of the Theory of Syntax*, M.I.T. Press 1965:30-8, 59-62.
7. Paul M. Postal, *The Cross-Over Principle: A Study in the Grammar of Coreference*, Thomas J. Watson Research Center, June 1968 mimeo, Introduction, pp.1-2.
8. The stronger claim, made by Fillmore (in *A Case for Case*, mimeo 1968)--that each simple sentence in a language would have a verb and a collection of nouns in various 'cases'--is not supportable for Polynesian languages because of sentences with no verb nuclei, and no aspect markers.
9. Hohepa 1967:92-5.
10. Hale 1968:83-99.
11. Bruce Biggs, P.W. Hohepa, and S.M. Mead, *Selected Readings in Maori*, Reed, Wellington, 1967.
12. *Ibid.*, p.10.

13. For a discussion of junctures and word classes see Biggs 1961. For a background to phrase types and phrase concatenations see Hohepa 1967. The above phrase types differ slightly from those given in 1967 in that no differentiation is made between the various classes of NP of the basis of relational functions.
14. Treating pronominalization as being a phrase phenomenon affecting phrase nucleus would do away with circumlocutions such as 'the pronoun with any relevant prepositions may be deleted'. When the phrase nucleus is pronominalized the whole phrase acts in gapping or deletions or permutations.
15. Chomsky 1965:101.
16. Chomsky 1965:107. The relevant rules are (57)(i-iii). The rules read that when Time is chosen the Time adverbial may occur after an embedded sentence (S').
17. Refer back to the discussion following (5) for other underlying reasons. While these statements do support Hale's account of subjunctives and similar complements (see Hale 1968:92-3), there are some features of complementation and pronominalization which have not been adequately handled.
18. The phonological string /raaua ko te whaea/ *and the mother is* not treated as a constitute. Parallel examples in English are given in Chomsky 1965:196 fn 7.
19. Some other members of a finite list are in Hohepa 1967:95.
20. Hale 1968:93.
21. *Ibid.*, p.93.
22. *Ibid.*, p.96.
23. Biggs, Hohepa, Mead 1967:41.

24. *Ibid.*, p. 51.
25. *Ibid.*, p.55.
26. *Ibid.*, p.94.
27. *Ibid.*, p.99.
28. Hale 1968:92.
29. These are the stative verbs in Biggs 1961:24, and v_i in Hohepa 1967:106 rule 68.
30. Biggs, Hohepa, Mead 1967:80.
31. *Ibid.*, p.28
32. *Ibid.*, p.29.
33. *Ibid.*, p.57.
34. This inferred neutralization is reflected also by postulating /he/ as being actualized in the deep structure as either he_{sing} or he_{plural} and these underly /teetahi/ *a specific*, and /eetahi/ *some* respectively. See Hohepa 1967:100 (rule 13) and page 104 (rule 45).
35. Biggs, Hohepa, Mead 1967:30.
36. Samuel H. Elbert, Grammar and Comparative study of the Language of Kapingamarangi...Final Report to Pacific Science Board, National Research Council, 1948.
37. Biggs, Hohepa, Mead 1967:149.